

ABSTRACT OF THE DISCLOSURE

An input buffer comprises: a pull-up transistor connected between a power supply voltage and an input pad and having a gate to which a control voltage is applied, and a substrate to which a floating well voltage is applied; a transmission transistor
5 having a gate to which the power supply voltage is applied and a substrate connected to a ground voltage, and transmitting a signal applied to the input pad; a buffer generating an input signal by buffering the signal applied to the transmission transistor; and a control circuit generating a voltage applied to the input pad as the control voltage and the floating well voltage when a high voltage is applied to the input pad, generating the
10 ground voltage as the control voltage and the power supply voltage as the floating well voltage in the case where a voltage less than the high voltage is applied to the input pad. In this manner, it is possible to prevent leakage current through the input buffer connected to the input pad of an external device by pulling up the input pad to the power supply voltage level, when the input pad is in floating state; while protecting the pull-up
15 transistor from the high voltage by turning off the pull-up transistor in the case where the high voltage is applied to the input pad.

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